

WHAT IS CLAIMED IS:

1. A grey glass comprising:

a base glass portion comprising:

Ingredient	wt. %
SiO ₂	67 – 75 %
Na ₂ O	10 – 20 %
CaO	5 – 15 %
MgO	0 – 7 %
Al ₂ O ₃	0 – 7 %
K ₂ O	0 – 7 %

and a colorant portion consisting essentially of:

total iron (expressed as Fe ₂ O ₃)	0.25 to 0.70 %
cerium oxide	0.01 to 1.0 %
selenium	0.00001 to 0.05%
cobalt oxide	0.0001 to 0.05%
titanium oxide	0 to 1.0%

wherein the grey glass has a redox value (FeO/Fe₂O₃) of at least 0.30, a visible transmittance (Lta) of at least 65%, a dominant wavelength in the range of from 435 nm to 570 nm, an excitation purity (Pe) of no greater than 5.0%, an IR transmittance (%IR) of no greater than 35%, a UV transmittance (%UV) of no greater than 42%, and a total solar transmittance (%TS) of no greater than 52%.

2. The glass of claim 1, wherein the glass has a redox value (FeO/Fe₂O₃) of at least 0.34, a visible transmittance (Lta) of at least 70%, an IR transmittance (%IR) of no greater than 30%, and a UV transmittance (%UV) of no greater than 40%.

3. The glass of claim 2, wherein said dominant wavelength and excitation purity are measured at a nominal thickness of the glass of anywhere from 3 mm to 4 mm, and wherein the glass has a dominant wavelength of from 480 to 520 nm and an excitation purity (Pe) of no greater than 3.0%.

4. The glass of claim 1, wherein the glass is substantially free of nickel and chromium.

5. The glass of claim 1, wherein the glass has a redox value (FeO/Fe₂O₃) of at least 0.38.

6. The glass of claim 1, wherein the glass has a %TS of no greater than 50%.

7. The glass of claim 1, wherein said colorant portion consists essentially of:

total iron (expressed as Fe ₂ O ₃)	0.3 to 0.6 %
cerium oxide	0.05 to 0.75 %
selenium	0.00005 to 0.005%
cobalt oxide	0.0005 to 0.01%
titanium oxide	0 to 0.75%.

8. The glass of claim 1, wherein the glass has a visible transmission Lta of at least about 70%.

9. The glass of claim 1, wherein said colorant portion consists essentially of:

total iron (expressed as Fe ₂ O ₃)	0.35 to 0.55 %
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cerium oxide	0.10 to 0.60 %
selenium	0.0001 to 0.0009%
cobalt oxide	0.001 to 0.004%
titanium oxide	0.05 to 0.6%.

10. The glass of claim 1, wherein the glass has a %IR of no greater than 29%.

11. The glass of claim 1, wherein the glass has a %IR of no greater than 29% and a %TS of no greater than 49%.

12. The glass of claim 1, wherein the glass has a color characterized as follows when measured according to Ill. D65, 10 degree observer:

a*	from -4 to +1
b*	from -3 to +3
L*	from 80 to 95.

13. A grey glass comprising:
a base glass portion comprising:

Ingredient	wt. %
SiO ₂	67 – 75 %
Na ₂ O	10 – 20 %
CaO	5 – 15 %
MgO	0 – 7 %
Al ₂ O ₃	0 – 7 %
K ₂ O	0 – 7 %

and a colorant portion comprising:

total iron (expressed as Fe ₂ O ₃)	0.25 to 0.70 %
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cerium oxide	0.01 to 1.0 %
selenium	0.00001 to 0.05%
cobalt oxide	0.0001 to 0.05%
titanium oxide	0 to 1.0%

wherein the grey glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.30, a visible transmittance (Lta) of at least 65%, a dominant wavelength in the range of from 435 nm to 570 nm, an excitation purity (Pe) of no greater than 5.0%, an IR transmittance (%IR) of no greater than 35%, a UV transmittance (%UV) of no greater than 42%, and a total solar transmittance (%TS) of no greater than 52%.

14. The glass of claim 13, wherein the glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.34, a visible transmittance (Lta) of at least 70%, an IR transmittance (%IR) of no greater than 30%, and a UV transmittance (%UV) of no greater than 40%.

-----15.-----The glass of claim 14, wherein said dominant wavelength and excitation purity are measured at a nominal thickness of the glass of anywhere from 3 mm to 4 mm, and wherein the glass has a dominant wavelength of from 480 to 520 nm and an excitation purity (Pe) of no greater than 3.0%, and wherein the colorant portion comprises from 0 to 0.3% erbium oxide.

16. The glass of claim 13, wherein the glass is substantially free of nickel and chromium.

17. The glass of claim 13, wherein the glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.38.

18. The glass of claim 13, wherein the glass has a %TS of no greater than 50%.

19. The glass of claim 13, wherein said colorant portion comprises:

total iron (expressed as Fe_2O_3)	0.3 to 0.6 %
cerium oxide	0.05 to 0.75 %
selenium	0.00005 to 0.005%
cobalt oxide	0.0005 to 0.01%
titanium oxide	0 to 0.75%.

20. The glass of claim 13, wherein the glass has a visible transmission Lta of at least about 70%.

21. The glass of claim 13, wherein said colorant portion comprises:

total iron (expressed as Fe_2O_3)	0.35 to 0.55 %
cerium oxide	0.10 to 0.60 %
selenium	0.0001 to 0.0009%
cobalt oxide	0.001 to 0.004%
titanium oxide	0.05 to 0.6%.

22. The glass of claim 13, wherein the glass has a %IR of no greater than 29%.

23. The glass of claim 13, wherein the glass has a %IR of no greater than 29% and a %TS of no greater than 49%.

24. The glass of claim 13, wherein the glass has a color characterized as follows when measured according to Ill. D65, 10 degree observer:

a*	from -4 to +1
b*	from -3 to +3
L*	from 80 to 95.

25. Glass comprising:

total iron (expressed as Fe_2O_3)	0.25 to 0.70 %
cerium oxide	0.01 to 1.0 %
selenium	0.00001 to 0.05%
cobalt oxide	0.0001 to 0.05%
titanium oxide	0 to 1.0%

wherein the glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.30, a visible transmittance (L_{ta}) of at least about 65%, a dominant wavelength in the range of from 435 nm to 570 nm, an IR transmittance (%IR) of no greater than 35%, and a UV transmittance (%UV) of no greater than 42%.

26. The glass of claim 25, wherein the glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.34, a visible transmittance of at least about 70%, and a UV transmittance (%UV) of no greater than 40%.

27. The glass of claim 25, wherein the glass is substantially free of nickel and chromium.

28. The glass of claim 25, wherein the glass has a redox value ($\text{FeO}/\text{Fe}_2\text{O}_3$) of at least 0.38.

29. The glass of claim 25, wherein the glass has a total solar transmittance (%TS) of no greater than 50%.

30. The glass of claim 25, wherein a colorant portion of the glass consists essentially of:

total iron (expressed as Fe_2O_3)	0.3 to 0.6 %
cerium oxide	0.05 to 0.75 %
selenium	0.00005 to 0.005%
cobalt oxide	0.0005 to 0.01%
titanium oxide	0 to 0.75%
erbium oxide	0 to 0.3%.

31. The glass of claim 25, wherein the glass has a visible transmission Lta of at least about 70%.
